

Complete Summary

GUIDELINE TITLE

Dose of haemodialysis.

BIBLIOGRAPHIC SOURCE(S)

Kerr P, Perkovic V, Petrie J, Agar J, Disney A. Dose of haemodialysis. Nephrology 2005 Oct;10(S4):S61-3.

Kerr P, Perkovic V, Petrie J, Agar J, Disney A. Dose of haemodialysis. Westmead NSW (Australia): CARI - Caring for Australians with Renal Impairment; 2005 Apr. 7 p. [15 references]

GUIDELINE STATUS

This is the current release of the guideline.

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

End-stage kidney disease (ESKD)

GUIDELINE CATEGORY

Evaluation
 Management
 Treatment

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Nephrology
Nursing
Nutrition

INTENDED USERS

Allied Health Personnel
Nurses
Physicians

GUIDELINE OBJECTIVE(S)

To review the available evidence pertaining to urea removal for 3 times per week haemodialysis

TARGET POPULATION

Patients with end-stage kidney disease (ESKD) on dialysis

INTERVENTIONS AND PRACTICES CONSIDERED

Evaluation

Assessment of hemodialysis adequacy

- Blood pressure control
- Extracellular fluid volume management
- Formal urea-kinetic Kt/V
- Natural log Kt/V
- Urea reduction ratio
- Daugirdas second generation formula

Management/Treatment

Hemodialysis

- Minimum achieved spKt/V

MAJOR OUTCOMES CONSIDERED

- Dialysis adequacy
- Patient well being
- Mortality

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

Databases searched: Medical Subject Headings (MeSH) terms and text words for dialysis were combined with MeSH terms and text words for creatinine clearance, dialysis adequacy and membranes. The results were then combined with the Cochrane highly sensitive search strategy for randomised controlled trials. The search was carried out in Medline (1966 – April Week 3 2003). The Cochrane Renal Group Specialised Register of randomised controlled trials was also searched for relevant trials not indexed in Medline.

Date of searches: 28 April 2003; 2 March 2004.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Weighting According to a Rating Scheme (Scheme Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Levels of Evidence

Level I: Evidence obtained from a systematic review of all relevant randomized controlled trials (RCTs)

Level II: Evidence obtained from at least one properly designed RCT

Level III: Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method); comparative studies with concurrent controls and allocation not randomized, cohort studies, case-control studies, interrupted time series with a control group; comparative studies with historical control, two or more single arm studies, interrupted time series without a parallel control group

Level IV: Evidence obtained from case series, either post-test or pretest/post-test

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Comparison with Guidelines from Other Groups
Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Recommendations of Others. Recommendations regarding dose of hemodialysis and hemodialysis adequacy from the following groups were discussed: Kidney Disease Outcomes Quality Initiative, British Renal Association, Canadian Society of Nephrology, and European Best Practice Guidelines.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Definitions for the levels of evidence (I–IV) can be found at the end of the "Major Recommendations" field.

Guidelines

No recommendations possible based on Level I or II evidence.

Suggestions for Clinical Care

(Suggestions are based on Level III and IV sources)

- Adequacy of dialysis should be assessed on all patients at least 3-monthly, as clinically-based assessment has proven unreliable.

- Adequate dialysis should always include careful blood pressure control and extracellular fluid (ECF) volume management with regular re-evaluation of ideal dry weight, salt intake and a review of the ultrafiltration rate.
- Adequacy of dialysis can be assessed in several ways. The most common acceptable methods are: formal urea-kinetic dialyzer clearance, time/volume (Kt/V), Urea reduction (URR), natural log Kt/V and the Daugirdas second generation formula. A renal unit should be consistent in the method it uses. (*Opinion*)
- The minimum achieved spKt/V should be 1.2 (URR = 65%). To consistently achieve this in at least 80% of patients, it is recommended that the target spKt/V should be 1.4 (URR = 70%).

Definitions:

Levels of Evidence

Level I: Evidence obtained from a systematic review of all relevant randomized controlled trials (RCTs)

Level II: Evidence obtained from at least one properly designed RCT

Level III: Evidence obtained from well-designed pseudo-randomized controlled trials (alternate allocation or some other method); comparative studies with concurrent controls and allocation not randomized, cohort studies, case-control studies, interrupted time series with a control group; comparative studies with historical control, two or more single arm studies, interrupted time series without a parallel control group

Level IV: Evidence obtained from case series, either post-test or pretest/post-test

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations").

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Appropriate management of patients with end-stage kidney disease (ESKD)
- Decline in mortality with increasing dialysis dose

POTENTIAL HARMS

Not stated

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

Implementation and Audit

Units should ensure that at least 80% of patients consistently achieve a urea reduction (URR) (or equivalent) of 65%. This information is also collected by the Australia and New Zealand Dialysis and Transplant Registry (ANZDATA).

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2005 Oct

GUIDELINE DEVELOPER(S)

Caring for Australasians with Renal Impairment - Disease Specific Society

SOURCE(S) OF FUNDING

Industry-sponsored funding administered through Kidney Health Australia

GUIDELINE COMMITTEE

Not stated

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

David Harris, Convenor (Westmead, New South Wales); Merlin Thomas (Pahran, Victoria); David Johnson (Woolloongabba, Queensland); Kathy Nicholls (Parkville, Victoria); Adrian Gillin (Camperdown, New South Wales)

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

All guideline writers are required to fill out a declaration of conflict of interest.

GUIDELINE STATUS

This is the current release of the guideline.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the [Caring for Australasians with Renal Impairment \(CARI\) Web site](#).

Print copies: Available from Caring for Australasians with Renal Impairment, Locked Bag 4001, Centre for Kidney Research, Westmead NSW, Australia 2145

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- The CARI guidelines. A guide for writers. Caring for Australasians with Renal Impairment. 2008 Jul. 6 p.

Electronic copies: Available from the [Caring for Australasians with Renal Impairment \(CARI\) Web site](#).

PATIENT RESOURCES

None available

NGC STATUS

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